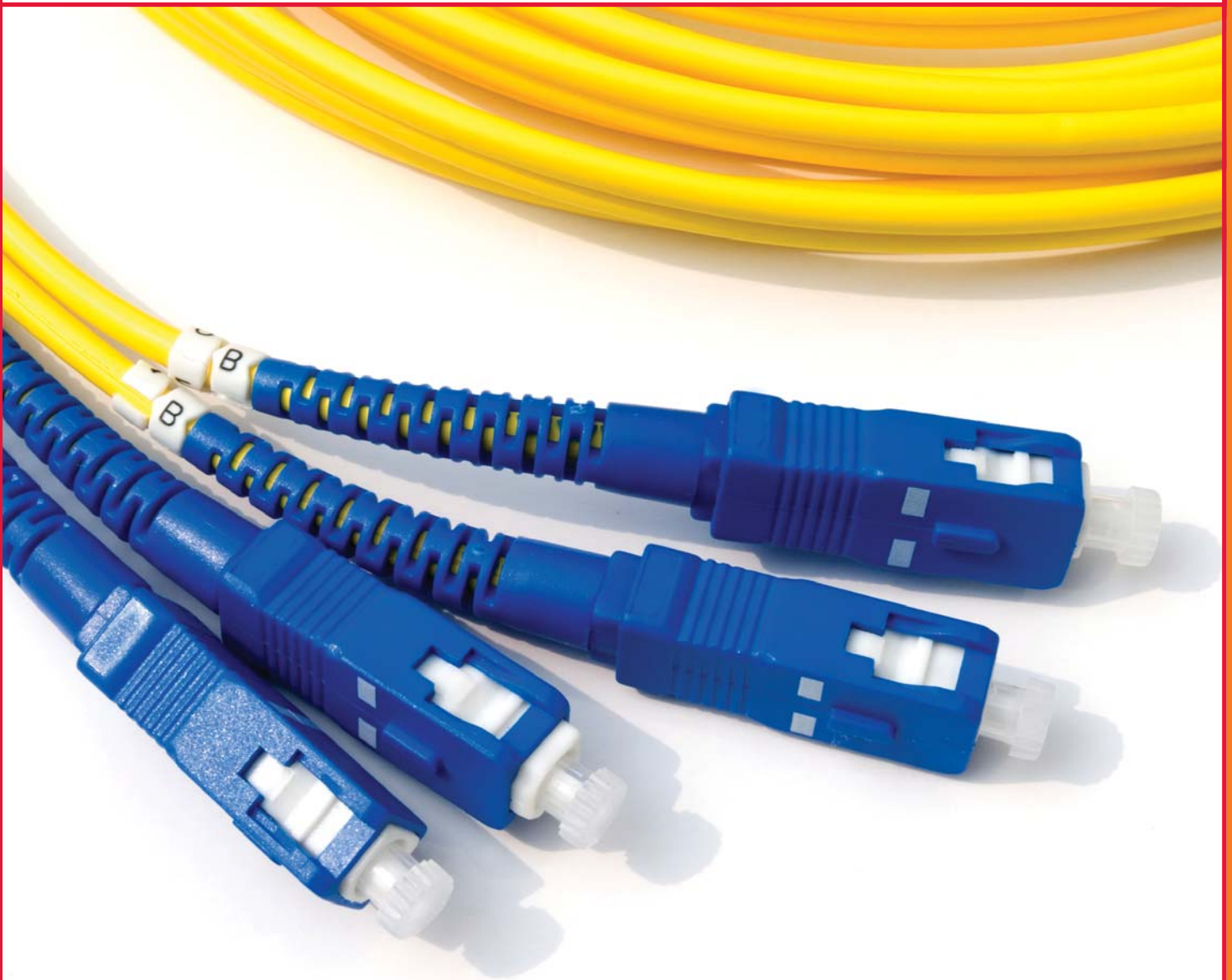


FIBER OPTIC CABLE
ASSEMBLY



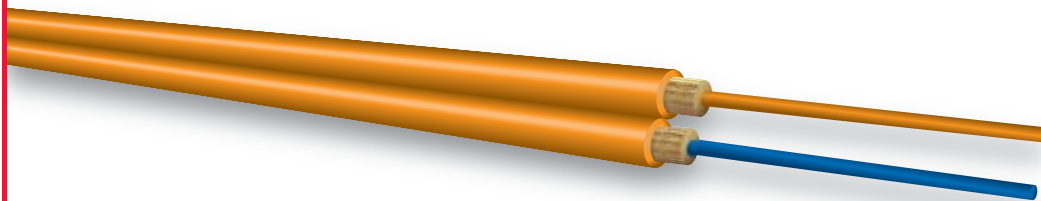
A-Series

Features and Applications

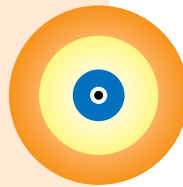
- Resilient and flexible for jumpers, patch cords, and pigtails
- Suitable for general purpose indoor use, such as routing connections in patching systems
- Short "patch cord" cables ideal for links between electronic equipment and main fiber optic cables
- Flame-retardant for indoor installations
- Compatible with all standard fiber optic connectors
- High performance tight-buffered coating on each optical fiber for environmental and mechanical protection
- Custom jacket colors are available to match connectors.
- Private labeling on the cable outer jacket is also available
- 1 (simplex) and 2 (duplex) fibers available
- Available in 2.9, 2.0 or 1.6mm diameters
- Available with Bend Insensitive Single-mode fiber

Optical Cable Corporation tight-buffered fiber optic Assembly Cables meet the functional requirements of the following standards

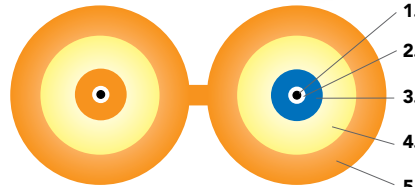
- ICEA-S-83-596
- GR-409-CORE
- TIA-568
- TIA-598



1. Optical Fiber
2. 250 μ m Acrylate Fiber Coating
3. 900 μ m Diameter Tight-Buffer (standard)
4. Aramid Strength Member
5. Outer Jacket



Simplex



Duplex Zipcord

A-SERIES ASSEMBLY AND MICRO-ASSEMBLY CABLE PRODUCT SPECIFICATIONS



AC 2 | ASSEMBLY CABLES

A-Series 2.9 mm Assembly Cables (AX)

	Riser	Plenum	Zero-Halogen
Jacket Type	N	S	Z
Operating Temperature	-40°C to +85°C	-20°C to +85°C	-20°C to +70°C
Storage Temperature	-55°C to +85°C	-40°C to +85°C	-40°C to +70°C
Installation Temperature (cable temp.)	-10°C to +60°C	0°C to +60°C	0°C to +60°C
Crush Resistance	750 N/cm	500 N/cm	750 N/cm
Impact Resistance	1,000 impacts	200 impacts	1,000 impacts
Flex Resistance	7,500 cycles	2,000 cycles	2,000 cycles
Flame Retardancy	Riser*	Plenum**	Riser*

*UL Listed Type OFNR (UL 1666) and FT4 (CSA C22.2 No. 232)

**UL Listed Type OFNP (ANSI/NFPA 262) and FT6 (CSA C22.2 No. 232)

Cable Characteristics: A-Series 2.9mm Assembly Cables Riser Rated (N)

Fiber Count	Diameter mm (in)	Weight kg/km (lbs/1000')	Installation Tensile Load N (lbs)	Operational Tensile Load N (lbs)	Minimum Bend Radius Installation cm (in)	Minimum Bend Radius Long-Term cm (in)
1	2.9 (0.11)	8 (5)	500 (110)	300 (70)	5.0 (2.0)	3.0 (1.2)
2	2.9 x 5.8 (0.11 x 0.23)	16 (11)	1,000 (220)	500 (110)	5.0 (2.0)	3.0 (1.2)

Cable Characteristics: A-Series 2.9mm Assembly Cables Plenum Rated (S)

Fiber Count	Diameter mm (in)	Weight kg/km (lbs/1000')	Installation Tensile Load N (lbs)	Operational Tensile Load N (lbs)	Minimum Bend Radius Installation cm (in)	Minimum Bend Radius Long-Term cm (in)
1	2.9 (0.11)	9 (6)	500 (110)	300 (70)	5.0 (2.0)	3.0 (1.2)
2	2.9 x 5.8 (0.11 x 0.23)	18 (12)	1,000 (220)	500 (110)	5.0 (2.0)	3.0 (1.2)

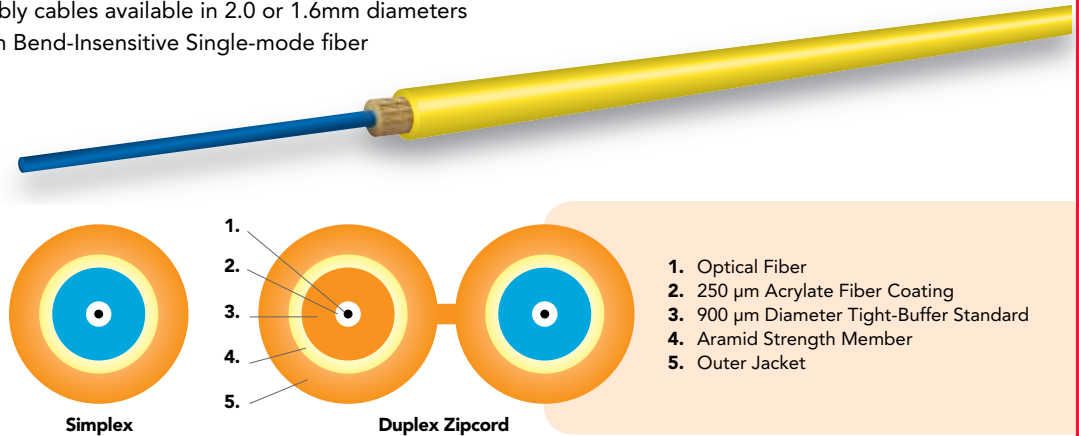
Cable Characteristics: A-Series 2.9mm Assembly Zero Halogen (Z)

Fiber Count	Diameter mm (in)	Weight kg/km (lbs/1000')	Installation Tensile Load N (lbs)	Operational Tensile Load N (lbs)	Minimum Bend Radius Installation cm (in)	Minimum Bend Radius Long-Term cm (in)
1	2.9 (0.11)	8 (5)	500 (110)	300 (70)	5.0 (2.0)	3.0 (1.2)
2	2.9 x 5.8 (0.11 x 0.23)	16 (11)	1,000 (220)	500 (110)	5.0 (2.0)	3.0 (1.2)

A-Series Micro

Features and Applications

- Resilient and flexible for jumpers, patch cords, and pigtails
- Suitable for general purpose indoor use, such as routing connections in patching systems
- Short "patch cord" cables ideal for links between electronic equipment and main fiber optic cables
- Flame-retardant for indoor installations
- Compatible with all standard fiber optic connectors
- High performance tight-buffered coating on each optical fiber for environmental and mechanical protection
- Custom jacket colors are available to match connectors. Private labeling on the cable outer jacket is also available
- 1 (simplex) and 2 (duplex) fibers available
- Micro-Assembly cables available in 2.0 or 1.6mm diameters
- Available with Bend-Insensitive Single-mode fiber



Mechanical & Environmental Performance

	Riser	Plenum	Zero-Halogen
Jacket Type	D	S	Z
Operating Temperature	-40°C to +85°C	-20°C to +85°C	-20°C to +70°C
Storage Temperature	-55°C to +85°C	-40°C to +85°C	-40°C to +70°C
Installation Temperature (cable temp.)	-10°C to +60°C	0°C to +60°C	0°C to +60°C
Crush Resistance	500 N/cm	500 N/cm	500 N/cm
Impact Resistance	750 impacts	150 impacts	200 impacts
Flex Resistance	2,000 cycles	1,000 cycles	2,000 cycles
Flame Retardancy	Riser*	Plenum**	Riser*

*UL Listed Type OFNR (UL 1666) and FT4 (CSA C22.2 No. 232)

**UL Listed Type OFNP (ANSI/NFPA 262) and FT6 (CSA C22.2 No. 232)

AE-SERIES ASSEMBLY AND MICRO-ASSEMBLY CABLE PRODUCT SPECIFICATIONS



AC 4 | ASSEMBLY CABLES

Cable Characteristics: AE-Series 2.0mm Micro-Assembly Cables Riser Rated (D)

Fiber Count	Diameter mm (in)	Weight kg/km (lbs/1000')	Installation Tensile Load N (lbs)	Operational Tensile Load N (lbs)	Minimum Bend Radius Installation cm (in)	Minimum Bend Radius Long-Term cm (in)
1	2.0 (0.08)	4 (3)	300 (67)	160 (36)	3.8 (1.5)	2.5 (1.0)
2	2.0x4.5 (0.08x0.18)	9 (6)	600 (135)	300 (67)	3.8 (1.5)	2.5 (1.0)

Cable Characteristics: AE-Series 2.0mm Micro-Assembly Cables Plenum Rated (S)

Fiber Count	Diameter mm (in)	Weight kg/km (lbs/1000')	Installation Tensile Load N (lbs)	Operational Tensile Load N (lbs)	Minimum Bend Radius Installation cm (in)	Minimum Bend Radius Long-Term cm (in)
1	2.0 (0.08)	5 (3)	300 (67)	160 (36)	3.8 (1.5)	2.5 (1.0)
2	2.0x4.5 (0.08x0.18)	10 (7)	600 (135)	300 (67)	3.8 (1.5)	2.5 (1.0)

Cable Characteristics: AE-Series 2.0mm Micro-Assembly Cables Rated Zero Halogen (Z)

Fiber Count	Diameter mm (in)	Weight kg/km (lbs/1000')	Installation Tensile Load N (lbs)	Operational Tensile Load N (lbs)	Minimum Bend Radius Installation cm (in)	Minimum Bend Radius Long-Term cm (in)
1	2.0 (0.08)	5 (3)	300 (67)	160 (36)	3.8 (1.5)	2.5 (1.0)
2	2.0x4.5 (0.08x0.18)	9 (6)	600 (135)	300 (67)	3.8 (1.5)	2.5 (1.0)

Ordering Information

	A		0	0						9		
Digit No:	1	2	3	4	5	6	7	8	9	10	11	12
1	Assembly Series = A											
2	Diameter: 2.9mm = X ; 2.0mm = E ; 1.6mm = C											
3 – 5	Fiber count: Simplex = 001 ; Duplex = 002											
6	Jacket type: Riser (2.9 mm) = N Riser (Micro-Assembly 2.0mm, 1.6mm) = D Plenum (all sizes) = S Zero Halogen (all sizes) = Z											
7 – 9	Fiber type: (See Laser Ultra-Fox™ Fiber Performance Table - Pg. AC 6)											
10	250 micron fiber with 900 micron tight-buffer = 9 250 micron fiber with 600 micron tight-buffer = 6 250 micron fiber with 900 micron ES2 (Easy Strip) = 2											
11	Standard Jacket Color: 62.5 µm multimode (WLS, WLX) – Orange = O 50 µm multimode (ALS, ALX) – Orange = O 50 µm Ten gigabit (ALT, ALE) – Aqua = Q Single mode – Yellow = Y											
12	Rating: Riser (2.9mm) = R ; Plenum = P ; Zero Halogen (2.0mm, 1.6mm) = Z											

Example: 2-fiber (duplex) 2.9mm assembly cable using 62.5 µm standard laser optimized fiber, orange jacket –

A X 0 0 2 N W L S 9 O R

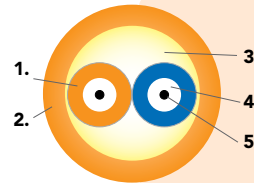
2-fiber (duplex) 2.0mm micro assembly cable using 62.5 µm standard laser optimized fiber, orange jacket –

A E 0 0 2 D W L S 9 O R

Mini-Round Duplex

Mini-Round Duplex Features and Applications

- Flexible, resilient for interconnect applications
- Small size for dense usage
- For small form-factor duplex connectors, such as MT-RJ
- 900 μ m buffer is standard; 600 μ m buffer is optional for Riser-rated cables
- Zero Halogen construction available
- 900 μ m tight-buffer for excellent mechanical and environmental performance



1. 900 μ m Diameter Tight-Buffer (standard)
2. Outer Jacket
3. Aramid Strength Member
4. 250 μ m Acrylate Fiber Coating
5. Optical Fiber

Mechanical and Environmental Performance

	Riser	Plenum
Jacket Type	N	S
Operating Temperature	-40°C to +85°C	-20°C to +85°C
Storage Temperature	-55°C to +85°C	-40°C to +85°C
Installation Temperature (cable temp.)	-10°C to +60°C	0°C to +60°C
Crush Resistance	750 N/cm	500 N/cm
Impact Resistance	1,000 impacts	200 impacts
Flex Resistance	5,000 cycles	1,000 cycles
Flame Retardancy	Riser*	Plenum**

*UL Listed Type OFNR (UL 1666) and FT4 (CSA C22.2 No. 232)

**UL Listed Type OFNP (ANSI/NFPA 262) and FT6 (CSA C22.2 No. 232)

Cable Characteristics: D-Series Mini-Round Duplex Riser Assembly Cables (DP)

Fiber Count	Diameter mm (in)	Weight kg/km (lbs/1000')	Installation Tensile Load N (lbs)	Operational Tensile Load N (lbs)	Minimum Bend Radius Installation cm (in)	Minimum Bend Radius Long-Term cm (in)
2	2.9 (0.11)	8 (5)	500 (110)	300 (70)	5.0 (2.0)	2.9 (1.1)

Cable Characteristics: D-Series Mini-Round Duplex Plenum Assembly Cables (DP)

Fiber Count	Diameter mm (in)	Weight kg/km (lbs/1000')	Installation Tensile Load N (lbs)	Operational Tensile Load N (lbs)	Minimum Bend Radius Installation cm (in)	Minimum Bend Radius Long-Term cm (in)
2	2.9 (0.11)	8 (5)	500 (110)	300 (70)	5.0 (2.0)	2.9 (1.1)

AX SERIES ASSEMBLY, MICRO-ASSEMBLY, AND MINI-ROUND DUPLEX ASSEMBLY CABLE PRODUCT SPECIFICATIONS



Laser Ultra-Fox™ Fiber Performance

Fiber Code	Core/Cladding Diameter (µm)	Wavelength (nm)	Industry Standard Designation	Gigabit Ethernet Distance (m)	10-Gigabit Ethernet Distance (m)	Maximum Cabled Attenuation (dB/km)	Minimum Laser Bandwidth (MHz-km)	Minimum LED Bandwidth* (MHz-km)
WLS	62.5/125 Standard	(850/1310)	OM1 ISO/IEC 11801	300/600	33/300 [^]	3.5/1.5	220/500	200/500
WLX	62.5/125 XL	(850/1310)	OM1 ISO/IEC 11801	500/1000	33/300 [^]	3.0/1.0	385/500	200/500
ALS	50/125 Standard	(850/1310)	OM2 ISO/IEC 11801	600/600	82/300 [^]	3.5/1.5	510/500	500/500
ALX	50/125 XL	(850/1310)	OM2 ISO/IEC 11801	750/600	150/300 ^{^2}	3.0/1.0 ³	950/500	700/500
ALT	50/125 (300 meter 10-GbE)	(850/1310)	OM3 ISO/IEC 11801	1000/600	300/300 ^{^2}	3.0/1.0 ³	2000/500	1500/500
ALE	50/125 (550 meter 10-GbE)	(850/1310)	OM3 ISO/IEC 11801	1040/600	550 ¹ /300 ^{^2}	3.0/1.0 ³	4700/500	3500/500
SLX	9 ^µ /125 Low Water Peak Single-mode	(1310/1550)	ITU-T G.652.D	5 km ⁴	10 km ⁵	0.5/0.5	—	—
SLA	9 ^µ /125 Bend-Insensitive Single-mode	(1310/1550)	ITU-T G.657.A ITU-T G.652.D	5 km ⁴	10 km ⁵	0.5/0.5	—	—
SLB	9 ^µ /125 Bend-Insensitive Single-mode	(1310/1550)	ITU-T G.657.A & B ITU-T G.652.D	5 km ⁴	10 km ⁵	0.5/0.5	—	—

Ordering Information

Digit No:	D	P	0	0	2							
1 – 2	2.9mm Mini-Round Duplex Ultra-Fox™ = DP											
3 – 5	Fiber count = 002											
6	Jacket type: Indoor Riser = N ; Indoor Plenum = S											
7 – 9	Fiber type: (See Laser Ultra-Fox™ Fiber Performance Table)											
10	250 micron fiber with 900 micron tight-buffer = 9											
	250 micron fiber with 600 micron tight-buffer un-rated = 6											
	250 micron fiber with 900 micron ES2 (Easy Strip) = 2											
11	Standard Jacket Color:											
	62.5 µm multimode (WLS, WLX) – Orange = O											
	50 µm multimode (ALS, ALX) – Orange = O											
	50 µm Ten gigabit (ALT, ALE) – Aqua = A											
	Single-mode – Yellow = Y											
12	Rating: Riser = R ; Plenum = P											

Example: 2 fiber 2.9mm mini-round duplex indoor riser cable using 62.5 µm standard laser optimized fiber, orange jacket –

D P 0 0 2 N W L S 9 O R

See page PI-7
for complete
OptiReel™ details.



* For backward compatibility to LED based systems, overfilled launch (OFL)

[^] 1310 nm CWDM lasers (10GBASE-LX4)

¹ Reach assuming 3.0 dB maximum cabled attenuation at 850 nm and 1.3 dB total connection and splice loss

² Supports 220 meter 10GBASE-LRM distance, or 300 meter 10GBASE-LRM distance with 300 meter capable equipment

³ 3.5/1.5 dB/km maximum attenuation applies for DX-Series cables greater than 36 fibers, and for all DX-Series cables with armor (corrugated steel tape or interlocked armor) or any other secondary outer jacketing

⁴ 10 km for 1310 nm 1000BASE-LH, and 5 km for 1310 nm 1000BASE-LX

⁵ 10 km for 1310 nm 10GBASE-LR, and 40 km for 1550 nm 10GBASE-ER

⁶ Nominal Mode Field Diameter at 1310 nm

Note: many other fiber types, fiber bandwidth, and attenuation performances are available.